

2834/AF

Corres. and Mail  
**BOX AF**

REPLY UNDER 37 C.F.R. 1.116  
EXPEDITED PROCEDURE  
TECHNOLOGY CENTER 2834

Attorney Docket: 225/48731  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: OTMAR BITSCHKE ET AL.

Serial No.: 09/540,201

Group Art Unit: 2834

Filed: MARCH 31, 2000

Examiner: THANH LAM

Title: RELUCTANCE MOTOR WITH AT LEAST TWO SALIENT POLES  
EACH PROVIDED WITH AN EXCITER WINDING, AND METHOD  
FOR MANUFACTURING THE STATOR OF SUCH....

#10/Response  
Hawkins  
2/6/02

RESPONSE

Box AF  
Commissioner for Patents  
Washington, D.C. 20231

Sir:

The following comments are addressed to the Final Patent Office Action of September 21, 2001, and serve as a supplement to the response filed on August 8, 2001.

RECEIVED  
JAN 25 2002  
TECHNOLOGY CENTER 2834

This application contains three independent claims, 1, 8 and 9. Each of these claims are addressed to either a reluctance motor or a method for manufacturing the stator of the reluctance motor. The reluctance motor has at least two salient stator poles, each having an exciter winding. It is the specific object of the present invention to improve upon prior art reluctance motor which were concerned with radial forces exerted against the coil during the flow of current. In the prior art, a series of coil wedges were driven manually into gaps

between adjacent coils so that the coils were clamped between the stator teeth. The resultant force of these wedges included an inwardly directed component. Furthermore, these wedges were difficult to position and the friction between the coil and the stator was required to be large in order to provide that the coil was firmly seated. Additionally, these coils occupy a portion of the space between adjacent stator teeth.

The present invention uses a radially outward spring bias, such as the snap ring 27, which is positioned with the outer side against the sides which face the rotor of the exciter coil surrounding the stator poles or their winding bodies. This bias spring force is exerted directly radially outward against the exciter coils which are held firmly between the biasing means (snap ring) and the yoke 13 of the stator 4. Thus, the coils 20-25 can no longer shift radially inward in order to ensure that these coils 20-25 can no longer approach the poles 5-12 of the rotor 1.

Claims 1-10 have again been rejected under 35 U.S.C. § 102 as anticipated by the reference to Carpenter, U.S. Patent No. 2,907,904, as indicated at item 3 of the Patent Office Action. In response to previously filed arguments that Carpenter does not have a "spring bias device and does not provide a radially outward force on the ends of the exciter coil facing the rotor in the direction away from the rotor," the Office Action indicates that because the word "device" is used, "it normally is meaning a combination of the mechanical or electrical elements to be connected together to become a device to serve its purpose." Therefore, the conclusion of the response to arguments at item 1 on page 2 of the Patent Office

Action is that the combination of wedges 24 as taught by Carpenter is considered a spring bias device and the device inherently provides a radially outward force on the exciter coils 17 facing the direction away from the rotor in order to hold coils in place making reference to column 3, lines 8-14.

Applicants strenuously urge that the present invention defines over the prior art as each of Independent Claims 1, 8 and 9, provide for a "spring bias device" or "snap ring" and that such "device" does not necessarily constitute "a combination of mechanical or electrical elements." As an example, U.S. Patent No. 5,584,672 claims a "spring biasing device" in Independent Claim 1 and recites in Claim 15 that the spring biasing device is a spring. Therefore, there is no indication that a claiming of a spring biasing device is normally "a combination of the mechanical or electrical elements to be connected together to become a device to serve its purpose."

However, the most important aspect of the present invention is that there is a recited "spring bias device" and the reference to Carpenter does not have a spring bias device. Using the normal meaning of "spring" and "bias," it is well known in the art that something which has a "spring bias" forces an object back into a different position or tends to force an object into a different position as a result of the spring.

The wedges 24 of Carpenter do not have or exert a "spring bias." Lines 8-14 of column 3 of Carpenter, which are referred to in the rejection, merely indicate that these wedges distribute the flux more evenly and hold the capacitor winding

17 in place. A holding function is not a spring bias function. A piece of wood blocking a door is a wedge, but it does not have a spring bias force.

Additionally, Claim 2 has been rejected with an indication that "said spring biasing device is at least one snap ring" but there is no indication that Carpenter has a snap ring. Furthermore, the dependent Claims 3-7 further limit the location of the spring biasing device and include the groove in which the biasing device is received, as well as an indication of the location of the snap springs. In a similar manner, Claim 10 recites that the biasing device is a snap ring.

In addition to submitting that the reference to Carpenter does not have a spring biasing device, as claimed in each of the Independent Claims 1, 8 and 9, nor the further limitations of the dependent claims, it is also submitted that one skilled in the art looking at the reference to Carpenter would not find it obvious to modify Carpenter to include a spring bias device or, in particular, a snap ring because the entire purpose of the wedges is to retain and to provide flux so that the wedges are made of magnetic material and one skilled in the art would have to remove the function of the magnetic material from Carpenter and substitute a spring biasing device which would no longer have the magnetic function and would address an objective not disclosed by Carpenter. Although this final rejection is based on anticipation under 35 U.S.C. § 102, it is also therefore submitted that Claims 1, 8 and 9, as well as dependent Claims 2-7 and 10, also patentably define over the disclosure of the reference to Carpenter which would be an obvious variation under the requirements of 35 U.S.C. § 103.

JAN 22 2002

Docket: 225/48731

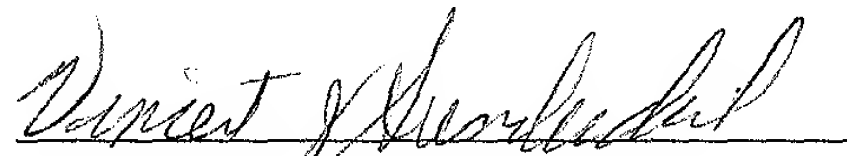
For these reasons, Applicants once again respectfully request a reconsideration and allowance of this application based on the distinguishing features which exist in each of Independent Claims 1, 8 and 9, which features are not shown, disclosed or made obvious by the reference to Carpenter.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket No. 225/48731).

Respectfully submitted,

Date: January 22, 2002



Donald D. Evenson  
Registration No. 26,160

Vincent J. Sunderdick  
Registration No. 29,004

CROWELL & MORING, LLP  
P.O. Box 14300  
Washington, DC 20044-4300  
Telephone No.: (202) 624-2500  
Facsimile No.: (202) 628-8844

DDE/VJS/lw

CAM No.: 38738.810